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ABSTRACT

This paper describes the development of online bibliographic searching at Lamar University, a state-supported university in Beaumont, Texas, and the results of a 1983 users' survey evaluating satisfaction with online searching services. Online searching is defined and its advantages and disadvantages are briefly outlined. The equipment used in searching, the training of searchers, administrative procedures, charging practices, and publicity provided for online searching services are described. Two major findings of a survey of 33 users of online services (with a response rate of 67%) are reported: most searches were done in the areas of business, education, science, and technology; and many users stated that less than 50% of the citations generated were useful in their particular research. Recommendations for improving the service focus on equipment, facilities, statistical recordkeeping, continued user evaluation, and revisions of the library's procedures manual. Appendices provide data on the number of searches conducted, the most frequently searched databases, and average search costs by database. A sample search request form, promotional material on online searching, a sample user questionnaire, and a sample statistical recordkeeping form are also provided. (ESR)

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A SURVEY OF ONLINE BIBLIOGRAPHIC SEARCHING IN THE REFERENCE DEPARTMENT OF A MEDIUM-SIZED UNIVERSITY LIBRARY

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APRIL, 1984

IR057709

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A SURVEY OF ONLINE BIBLIOGRAPHIC SEARCHING

IN THE REFERENCE DEPARTMENT

OF A MEDIUM-SIZED UNIVERSITY LIBRARY, 1977-1983

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A SURVEY OF ONLINE BIBLIOGRAPHIC SEARCHING
IN THE REFERENCE DEPARTMENT
OF A MEDIUM-SIZED UNIVERSITY LIBRARY, 1977-1983

I. Introduction

A. Definition and Development of Online Bibliographic Searching

Online bibliographic searching is the use of a computer terminal to search a collection of machine-readable records via several access points.[1] Online bibliographic searching began in the mid-1960s, and the U. S. government was an early producer of databases in the fields of education and medicine. Widespread online bibliographic searching in libraries began in the 1970s with the proliferation of new databases, the increase of commercial vendors acting as middlemen between database producers and users, and the development of more compact, less expensive equipment.

Online bibliographic searching has several advantages. These include speed, the convenience of having a tailor-made printed bibliography, a variety of access points (e.g., author and source) not available in printed indexes, a proliferation of databases on all subjects, and proliferation of citations (now numbering in the millions).[2]

Online bibliographic searching also has some disadvantages. These include the cost of equipment, training, and search aids (manuals, thesauri, etc.). There is also the dilemma of "free vs. fee," whether to charge patrons for searches, how much to charge, etc. Online bibliographic searching can also increase demand for interlibrary loan services in order to locate cited sources not in the library collection. There is also the dilemma of whether to subscribe to expensive, seldom-used, printed indexes that are also available online.

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[1] James L. Hall and Marjorie J. Brown, Online Bibliographic Databases: An International Directory, 2nd ed., (London : Aslib, 1981), p. xv.

[2] Ibid., pp. xv-xvi.

B. Development of Online Bibliographic Searching at Lamar University

Lamar University is a state-supported institution of approximately 12,000 students, located in Beaumont, Texas. It is classified as a IIA institution by the American Association of University Professors. The Mary and John E. Gray Library has over 700,000 volume equivalents. There are currently three full-time librarians in the Reference Department, all doing online bibliographic searching. The Mary and John E. Gray Library is a member of AMIGOS and uses OCLC for acquisitions, cataloging, and interlibrary loan.

During the 1977-78 academic year the Reference Department began to offer online bibliographic searching through AMIGOS. The service was provided to faculty, staff, and graduate students. Twenty-three searches were done. The staff also began ordering thesauri and other search aids for individual databases.

During the 1978-79 academic year the Reference Department acquired its own terminal, eliminating the need to go through AMIGOS. Through its own terminal the Library had access to DIALOG, SDC, and MEDLINE, three of the major vendors. Members of the Reference Department began attending training sessions for both general searching and specialized searching in individual databases. During the 1979-80 academic year the Reference Department received two mini-grants from the Research Council, a campus-wide body, to acquaint faculty and graduate students with the service.

During the 1982-83 academic year the Reference Department wrote a detailed section on online bibliographic searching in the Reference Staff Manual. By the end of the 1982-83 academic year the number of searches done since 1977-78 was 785, with 285 searches done during 1982-83. A statistical survey of the number of searches done is included in the appendix. It should be noted here that there has been a consistency in the databases searched. MEDLINE and ERIC are always among the most frequently-searched databases. A table of average search costs is also included in the appendix. Based on a sampling of the most frequently searched databases, an average search cost $14.13, but charges varied from $4.00 to $34.49.

II. Current Online Bibliographic Searching

A. Equipment

The Library uses a Texas Instruments Silent 700 Portable Data Terminal with a built-in telephone coupler. There were a great deal of problems with

this terminal when first installed, but it has been reliable for the past few years. It is quiet, compact, and has few moving parts; little maintenance is required. The printer uses rolls of thermal paper and few other supplies. There is a dedicated telephone line to connect the terminal to the various telephone systems (e.g., Telenet and Tymnet).

The various vendors (SDC, DIALOG, and MEDLINE) provide searching procedure manuals and brief, descriptive sheets on individual databases. Individual database producers also produce their own thesauri (dictionaries of descriptors), and the Library has purchased thesauri for the most frequently-searched databases.

B. Training

The various vendors and database producers provide training, both beginning and advanced, for searchers. The three reference librarians currently doing searching have attended workshops provided by DIALOG, MEDLINE, and various individual database producers. The staff is encouraged to attend workshops held in East Texas (usually Houston or Dallas).

C. Procedures

A complete description of online bibliographic searching procedures is given in Section II-D of the Reference Staff Manual. It is estimated that total staff time involved in an online bibliographic search is from one-half hour to one hour. A summary of steps involved in performing a search is given below.

1. The patron requests a search either in person at the Information Desk or by telephone.

2. The librarian conducts an interview to determine whether a search is appropriate and explains costs and procedures; the patron fills out a request form (see appendix); and an appointment is made for the search.

3. The librarian selects appropriate databases and determines a searching strategy (e.g., descriptors, commands, etc.)

4. At the appointed time the librarian explains the strategy to the patron and conducts the search with the patron present.

5. After the search is completed, the patron and librarian review the citations generated; payment is arranged; a receipt is given. If offline prints are ordered this step takes place when the prints are received.

6. The librarian enters the completed search in the log, and the request form, time and cost information from the search, and a copy of the receipt are filed.

7. The costs of the search are reconciled to a monthly statement from the vendor.

D. Charges

Charges for online bibliographic searching include the telephone charge, computer time, and total costs of citations generated (either on- or offline). Faculty may charge their searches to their departments with an appropriate account number. There is a surcharge for searches done for patrons not affiliated with Lamar University.

E. Public Relations

In order to acquaint graduate students and faculty with online bibliographic searching, the Library has used various means of publicity and public relations. Starting in October, 1977, with an article on the AMIGOS Computerized Reference Service, there have been articles in the University Press, the school newspaper. In October, 1978, the Library Director circulated an intracampus memorandum to faculty and staff to announce the acquisition of the TI terminal. There was also an article in the Academic Bulletin (the staff newsletter), on March 22, 1979, announcing a demonstration of the service. Non-transferrable coupons for one free search (up to $25.00) for new faculty have been distributed since Fall, 1980. A brochure entitled "Computerized Literature Search Service" was published in 1980 and revised in 1983 (see Appendix). It is on display in the reference area and enclosed with the free coupon sent to new faculty. An article on online bibliographic searching appears in the library supplement to the University Press in the Fall semester.

Formal library instruction to graduate students also includes a lecture on online bibliographic searching. According to Knapp:

> Probably the most common and perhaps the most successful introductions have been given to classes of new graduate students. ... Instruction about computer searching should be integrated with instruction about other library resources. [3]

Informal contacts between librarians and faculty and meetings for new faculty are also used to publicize this service.

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[3] Sara D. Knapp, "Instructing Library Patrons about Online Reference Services," Bookmark, vol. 38 (Fall, 1979), p. 237

III. Conclusions and Recommendations

A. Users' Survey

In order to evaluate users' satisfaction with online bibliographic searching, a questionnaire was sent to thirty-three patrons who requested searches during the Fall, 1983, semester. Twenty-two questionnaires were returned for a return rate of 66.6%. While this sample is minimal, some preliminary conclusions can be drawn from the responses.

Most searches were done in the areas of business, education, and science and technology. The majority of searches yielded citations, but many patrons stated that less than 50% of the citations generated were useful in their particular research. The majority felt that the librarians were helpful and knowledgeable in searching. They also considered the cost to be average (not too high or too low). The majority also would consider using this service again and would recommend it to their colleages and/or students. Most heard about the service from a colleague or from library publicity. Of those patrons who made additional comments, the majority were favorable, and only two were negative (one extremely so).

These responses indicate that the librarians should be very careful and thorough in explaining searching capabilities and limitations. The conclusion that less than 50% of the citations generated were useful is a cause for further study. There may be several reasons for this response--inappropriate selection of databases or descriptors, the Library did not own the sources cited, or the patron did not use interlibrary loan to get additional sources. A summary of patron responses and a sample survey are included in the Appendix.

B. Recommendations

In the area of equipment the Reference Department has several recommendations. Searching is now done in a small office shared by two staff members. The area can be very cramped when a search is being done with the patron present. Ideally, a separate room in the reference area could house the terminal, telephone, searching aids, supplies, and records. This room could also provide more space for practical demonstrations.

While the present TI terminal has been reliable, it has some disadvantages. A terminal with a CRT (video screen) would give the patron a better view of the citations as they are generated. Other universities have used terminals with CRTs and printers for several years. A microcomputer with a CRT, telephone coupler, and a printer would have the advantages of greater speed and patron visibility, and it could also be

used for billing purposes and record keeping. Storage of information now entered manually in the search log would be easily retrievable for statistical analysis and billing purposes.

A proposed statistical sheet for the annual report is included in the Appendix. The American National Standards Committee Z39 has recently published a revised standard for library statistics, including online bibliographic searching statistics, showing the importance of uniform statistics in this area.[4]

The continued use of users' surveys is recommended to get feedback from patrons. Other academic libraries, such as the University of North Carolina at Greensboro,[5] have conducted users' surveys, and the ALA/RASD/MARS Committee on Measurement and Evaluation of Service has published a recommended evaluation form.[6] An evaluation form could be given to every patron after the search has been completed, or a survey could be conducted at stated intervals (e.g., alternating spring and fall semesters during the academic year).

The online bibliographic searching section of the Reference Staff Manual should be revised to reflect changes in procedures. [Some changes have already taken place--more importance has been given to arranging appointments for searches instead of trying to do every search on a "walk-in" basis, and a new request form is being used.]

The staff should continue to give thorough explanations of searching capabilities during the interview, including asking the patron which printed indexes have been consulted and whether the patron has seen a search done before. [During the 1983-84 academic year the Library began using a chart with a simple ERIC search done both on- and offline to demonstrate both formats].

Statistics show uneveneness in interest from faculty members (see Appendix). Perhaps additional public relations aimed at the faculty could stabilize faculty interest.

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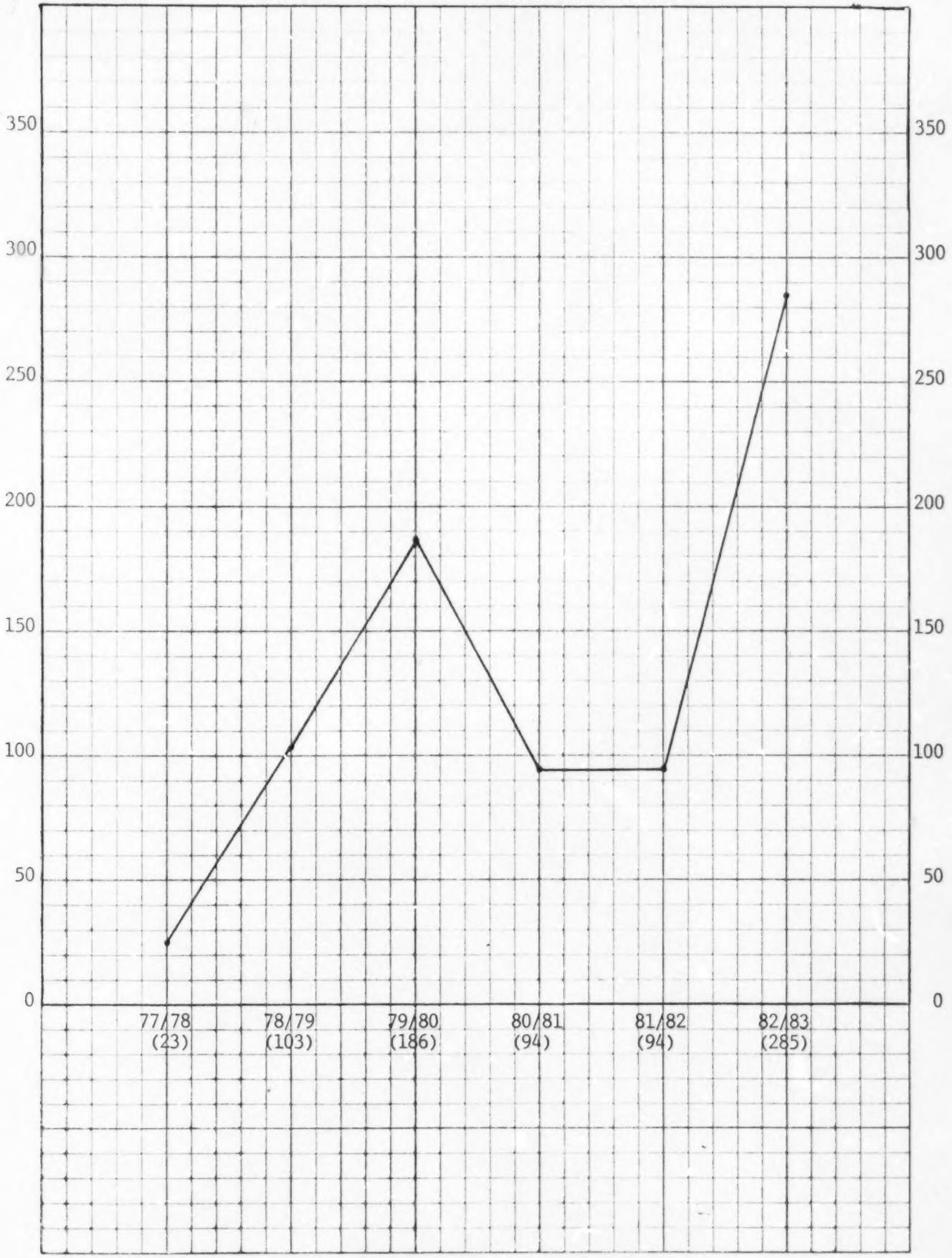
[4]"Library Statistics Standard Published," College and Research Libraries News, vol. 45, no. 4 (April, 1984), p. 203.

[5]Marcia Kingley, "A Closer Look at the Hobgoblin: Users' Satisfaction with Computerized Literature Searches," North Carolina Libraries, vol. 40, no. 1 (Spring, 1982), pp. 37-41.

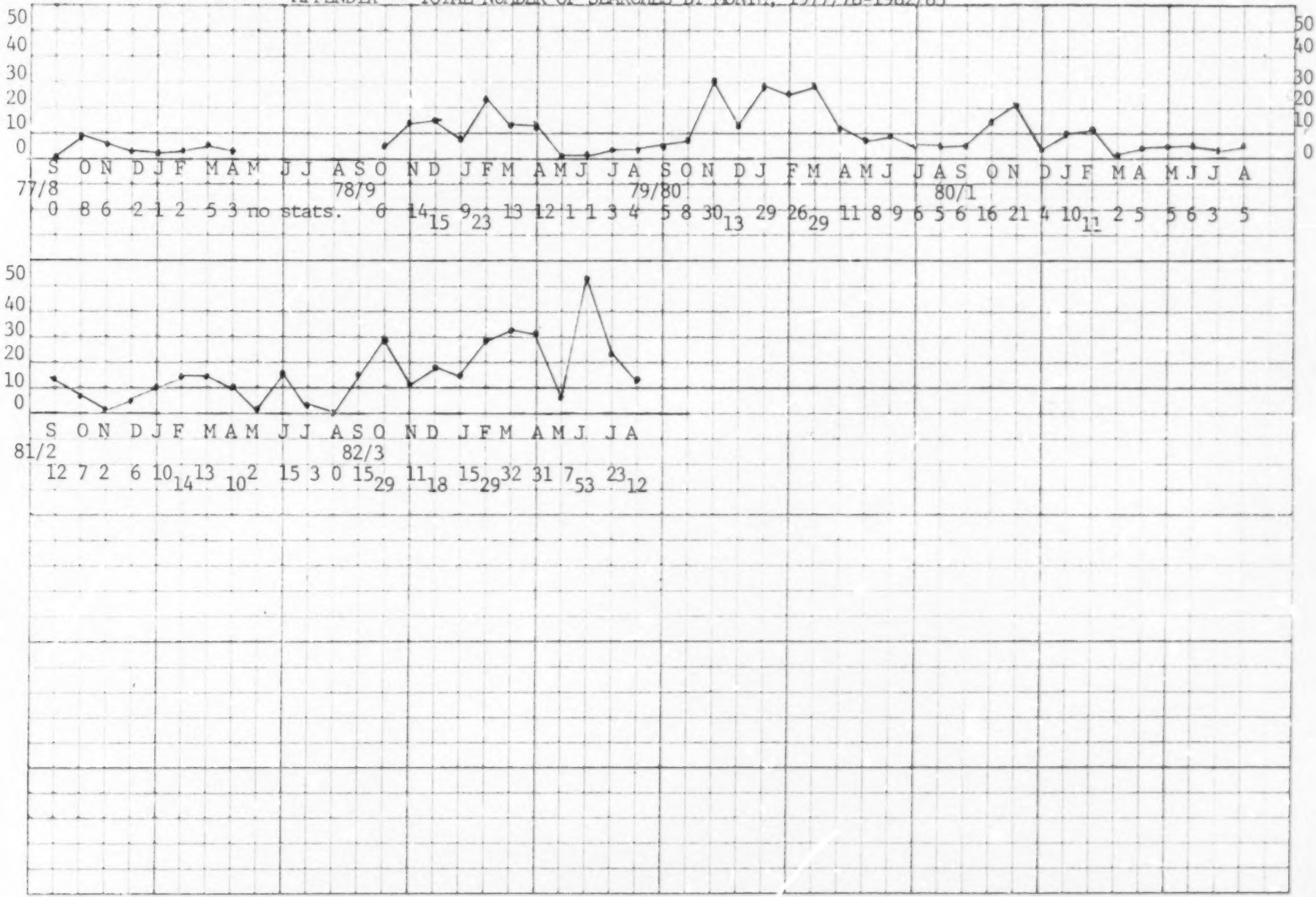
[6]Richard W. Blood, "Evaluation of Online Searches," RQ, v. 22, no. 3 (Spring, 1983), pp. 276-277.

APPENDIX

TOTAL NUMBER OF SEARCHES, 1977/78-1982/83

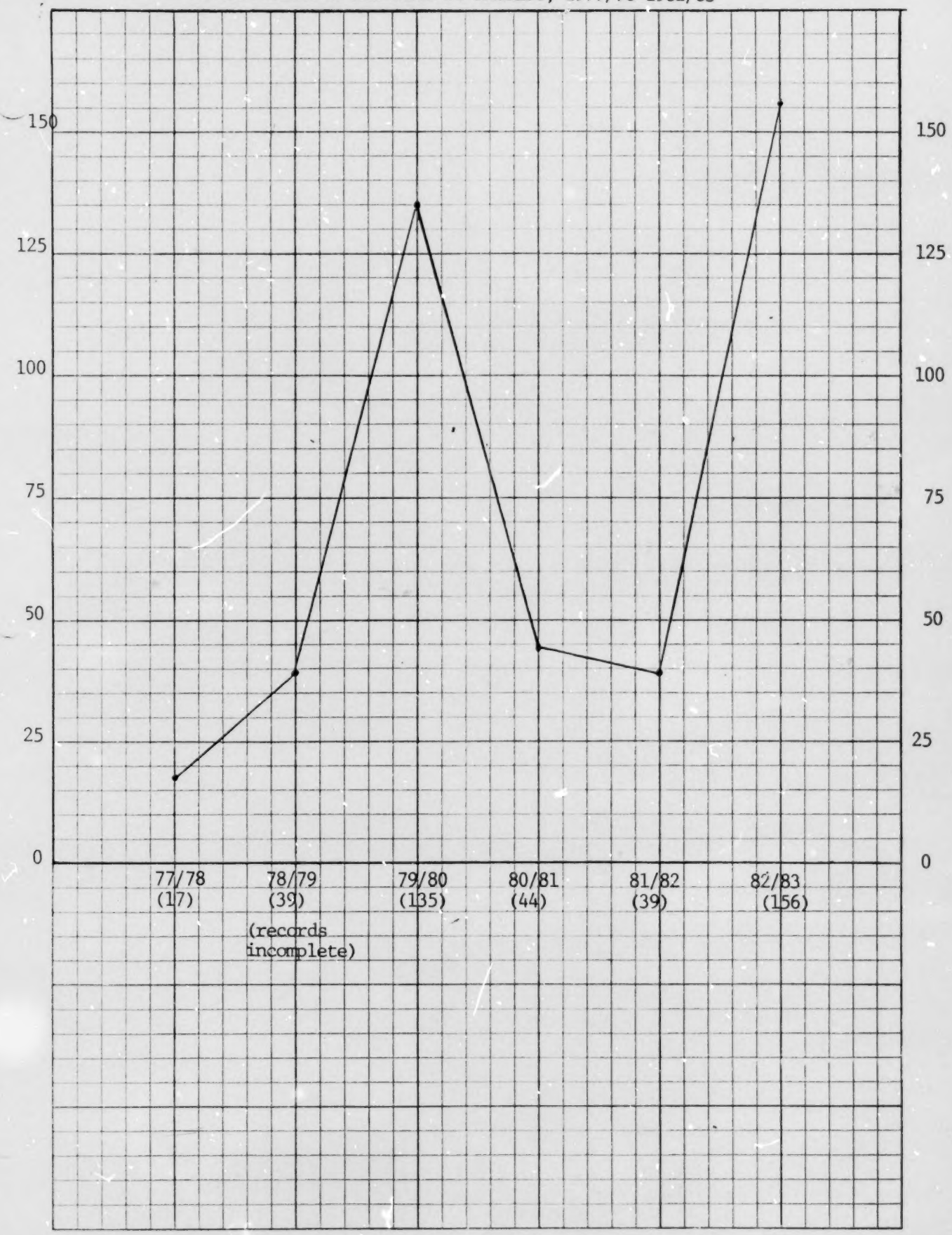


APPENDIX -- TOTAL NUMBER OF SEARCHES BY MONTH, 1977/78-1982/83



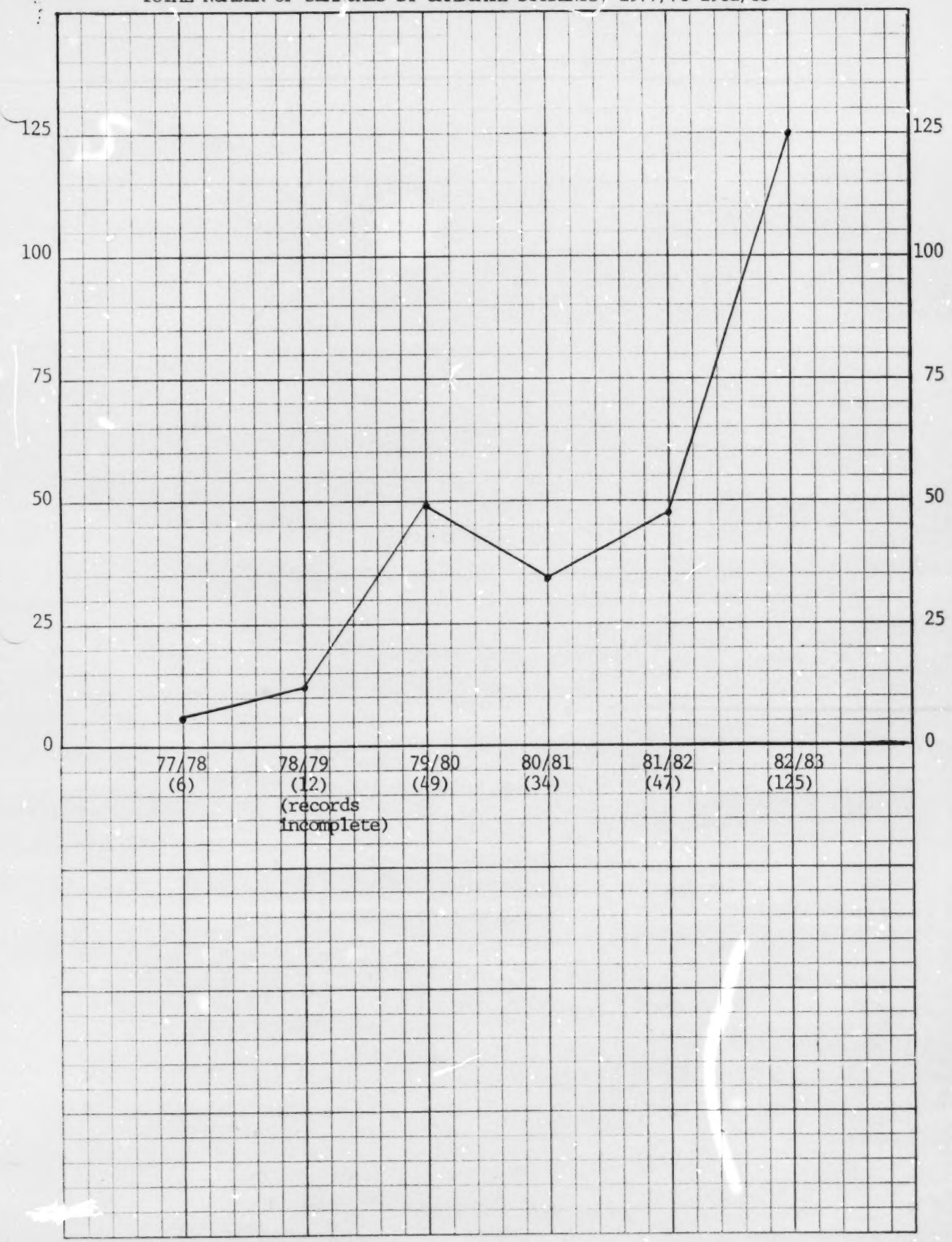
APPENDIX

TOTAL NUMBER OF SEARCHES BY FACULTY, 1977/78-1982/83



APPENDIX

TOTAL NUMBER OF SEARCHES BY GRADUATE STUDENTS, 1977/78-1982/83



APPENDIX

MOST FREQUENTLY SEARCHED DATABASES
1977/78-1982/83

ACADEMIC YEAR	NAME OF DATABASE	NUMBER OF TIMES SEARCHED
1977-78	Medline	5
	ERIC	4
	Chemical Abstracts	3
	Psychinfo	3
1978-79	Medline	12
	ERIC	6
	NTIS	6
	Social Scisearch	5
1979-80	Medline	66
	ERIC	26
	Psychinfo	17
	Biosis	11
	Social Scisearch	8
1980-81	Medline	33
	ERIC	26
	Georef	8
	Chemical Abstracts	6
1981-82	ERIC	43
	Medline	12
	ABI/INFORM	8
	Psychinfo	6
1982-83	ERIC	83
	Chemical Abstracts	39
	Medline	34
	Compendex	18
	Exceptional Child Educ. Res.	18

APPENDIX

AVERAGE COST OF ONLINE BIBLIOGRAPHIC SEARCHING FOR MOST ACTIVE BASES, 1982-83

Compendex	$25.83
Psychinfo	20.09
ABI/INFORM	13.97
Chemical Abstracts (per file)	13.44
Exceptional Child Education Resources	11.99
ERIC	7.39
MEDLINE	6.20
AVERAGE COST OF SEARCH	$14.13

DATABASE SEARCH REQUEST

Name _____ Faculty ___ Graduate ___ Other ___ Date _____

Address (or Department and Campus Box) _____

_____

Telephone Home _____ Work _____ Means of Payment Cash ___ Check ___ Charge _____
(acct. no.)

I am authorized to charge this search to the account number provided.

_____
(Signature)

I agree to pay all charges in connection with this search.

_____
(Signature)

SUBJECT OF SEARCH (please be as specific as possible, including relevent terms, etc.)

RESTRICTIONS (e.g., age level, language, geographic area, dates, human, animal)

PLEASE LIST ANY PRINTED SOURCES ALREADY CONSULTED (e.g., reference books, periodical indexes)

To be filled in by library staff

DATABASE (name and number)

Search no. _____

DESCRIPTORS

PRINTS Online ___ Offline ___

OFFLINE PRINTS RECEIVED _____
(date)

PATRON NOTIFIED _____
(date)

PATRON PICKUP _____
(date)

Interviewer/Searcher _____

SELECTED DATABASES
(Subject to frequent price changes)

BUSINESS AND ECONOMICS

database	coverage	cost/$	print charge/cit
ABI/INFORM (Data Courier)			
	1971-date	73/hr	.30
DISCLOSURE II	1980-date	60/hr	10.00
ECONOMICS Abstracts International			
	1974-date	65/hr	.20
MANAGEMENT CONTENTS			
	1974-date	75/hr	.30
PTS FUNK & SCOTT INDEXES (Predicasts, Inc.)			
	1972-date	90/hr	.25

GOVERNMENT DOCUMENTS AND INTERDISCIPLINARY

ASI (American Statistics Index)			
	1973-date	90/hr	.15
CIS (Congressional Information Service)			
	1970-date	90/hr	.25
COMPREHENSIVE DISSERTATION INDEX			
	1861-date	70/hr	.20

MEDICINE

MEDLARS (Medline, Toxline, Chemline, Cancerpro, etc.)			
	1966-date	15/hr	.18/page

SCIENCE AND TECHNOLOGY

BIOSIS REVIEWS (Biological Abtracts)			
	1969-date	58/hr	.15
CA (American Chem. Society)			
	1967-date	64/hr	.20
COMPENDEX (Engineering Index, Inc.)			
	1970-date	80/hr	.30
ENERGYLINE	1971-date	90/hr	.25
FOOD SCIENCE & TECHNOLOGY ABSTRACTS			
	1969-date	65/hr	.15
GEOARCHIVE (Geosystems)	1969-date	70/hr	.20
GEOREF	1961-date	82/hr	.20
INSPEC	1969-date	75/hr	.25
ISMEC (Inst. Mech. Engrs.)	1973-date	73/hr	.20
METADEX (Metal Abstracts)	1966-date	80/hr	.15
POLLUTION (Pollution Abstracts)			
	1970-date	73/hr	.20
SCISEARCH (Science Citation Index)			
	1974-date	65/hr	.15
SSIE (Smithsonian Science Information Exchange)			
	latest 2 yrs.	78/hr	.20

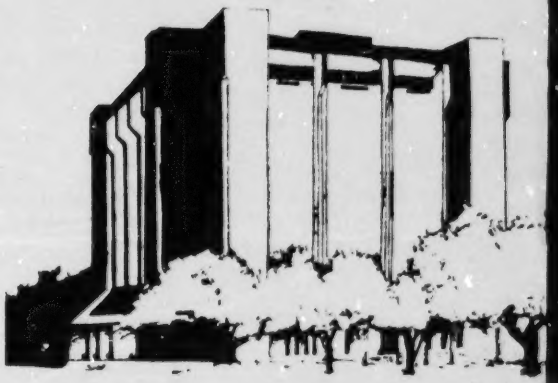
SOCIAL SCIENCES AND HUMANITIES

AMERICA: History and Life	1964-date	65/hr	.15
ARTBIBLIOGRAPHIES MODERN			
	1974-date	60/hr	.15
ERIC	1966-date	25/hr	.10
EXCEPTIONAL CHILD EDUCATION RESOURCES			
	1966-date	25/hr	.10
HISTORICAL ABSTRACTS	1973-date	65/hr	.15
LANGUAGE AND LANGUAGE BEHAVIOR ABSTRACTS			
	1973-date	55/hr	.15
MLA BIBLIOGRAPHY	1976-date	55/hr	.15
NICEM (National Information Center for Educational Media)			
	1964-date	70/hr	.20
PAIS INTERNATIONAL	1976-date	60/hr	.15
RILM ABSTRACTS (Repertoire Inter. Litt. Musicale)			
	1972-date	65/hr	.15
SOCIAL SCISEARCH	1972-date	75/hr	.15
SOCIOLOGICAL ABSTRACTS			
	1963-date	55/hr	.15
PSYCINFO	1967-date	65/hr	.10
UNITED STATES POLITICAL SCIENCE DOCUMENTS			
	1975-date	65/hr	.15

LAMAR UNIVERSITY

Title VI (C. R. Act 1964); Exec. Ord. 11246; Title IX; Sec. 504 (Rehab. Act 1973). Inquiries refer to Office of the President, Lamar University;

COMPUTERIZED LITERATURE SEARCH SERVICE



MARY AND JOHN GRAY LIBRARY

A COMPUTERIZED LITERATURE SEARCH SERVICE

Computerized literature searching is an automated method of scanning indexes so that one may compile bibliographies on specific subjects. These indexes, known as databases, represent the equivalent of many of our hard-copy indexes and abstracts, and allow ready access to the information through a local computer terminal telephone node.

WHERE ARE THE DATABASES

Lamar Gray Library has access to more than 100 databases. These are available through MEDLARS of the National Library of Medicine (Washington, D.C.), DIALOG of Lockheed (Palo Alto, CA), and ORBIT of Systems Development Corporation (Santa Monica, CA).

WHAT DO THEY COVER?

Databases cover a wide variety of subjects in the social sciences, science and technology, business and economics, education, and a few in the humanities. The average retrospective coverage for most bases is ten years.

MANUAL VERSUS COMPUTER SEARCH

A computer search is preferable when rapid access to current literature is necessary, when a large number of terms describe a topic, when a topic is too new or specific for establishment of a subject term, or when two or more ideas are combined. A typical example of the latter might be a search on "increased energy development and its resulting effect on air quality." Both concepts, "energy development" and "air quality", can be combined on the terminal and the bibliography will contain only those articles which discuss both concepts.

ON-LINE OR OFF-LINE

Each citation provides full bibliographic information. Some databases also include abstracts. Depending upon the number of citations to be printed, it is often advisable to have them printed "off-line" and mailed. The cost of off-line is per citation rather than on an hourly basis and consequently considerably less than on-line printing.

HOW DOES ONE DO A SEARCH?

Fill in a search request form and schedule an interview with a Reference Librarian (ext. 8128). Both of these steps are necessary to insure a quality search. The searcher needs to know your specific needs and all restricting parameters. Once the search request and interview are finalized, the librarian usually will run the search within 24 hours. Off-line printing will be received within a week.

A list of some of the databases available to us in several broad subject categories is listed on the back of this brochure. Please keep in mind that this is a select list. For a complete list of accessible databases, contact the reference department staff.

COSTS

Database access is provided to the library on a charge basis. The patron assumes the direct costs. Recent studies indicate that an average search costs $28.00. However, the costs vary widely with construction of the search strategy and the database accessed. The list of databases includes hourly and off-line printing charges. Individuals may pay by personal check at the time a bibliography printout is picked up or it may be charged to a University or grant account.

MEMORANDUM

DATE: NOV. 4, 1983

TO:

FROM: REFERENCE DEPARTMENT, GRAY LIBRARY

SUBJECT: COMPUTER SEARCHING

LAMAR UNIVERSITY

In order to improve our service to library patrons, the Gray Library Reference Department is evaluating its computer searching service. We are asking library patrons who have had recent searches done to please fill out the enclosed questionnaire and return it to Box 10021 by Nov. 18.

We would appreciate your taking the time to complete this form and return it in the addressed envelope provided. Please detach your name from this memorandum to insure confidentiality.

Thank you for your assistance.

LAMAR UNIVERSITY
MARY and JOHN GRAY LIBRARY
Box 10021
Lamar University Station
Beaumont, Texas 77710

November 4, 1983

COMPUTER SEARCHING
OPINION QUESTIONNAIRE

1. What is your university status? Graduate student 11 Faculty 12 (one person checked both)
   Other (please specify)
2. What was the subject area of your search? (please circle)
   Business 5 Education 5 Engineering 2 Health 3 Humanities 1 Other (please specify)
   Biology 3 Psychology 2 Computer Science 1 Government 1
3. Were any citations generated by your search? Yes 21 No 1
4. How many of the citations were useful in your research?
   Less than 50% 13 51% to 75% 4 More than 75% 5
5. Was the librarian helpful in explaining computer search capabilities, procedures, and costs? Yes 20 No 2
6. Did the librarian seem knowledgeable in searching techniques and subject matter? Yes 19 No 2
7. If you paid the costs of your search, do you feel that the costs were:
   Too high 3 About average 12 Did not pay for search 6
8. Would you consider using this service again? Yes 17 No 2
9. Would you recommend this service to your colleagues and/or students?
   Yes 18 No 2
10. How did you hear about the computer search service?
    From a colleague 8 From library publicity 6 From a library orientation 3
    Other 3 (please specify) Professor 2 Research Council 1
11. Any additional comments:
    Favorable 8
    Unfavorable 2

PLEASE DETACH FROM INTRA-CAMPUS MEMORANDUM AND RETURN BY NOV. 18. THANK YOU.

DATABASE SEARCHING STATISTICS

ACADEMIC YEAR _____

Total number of searches	_____
Number of searches for faculty	_____
Number of searches for graduate students	_____
Number of searches for library staff	_____
Numbet of searches for non-Lamar patrons	_____
Number of databases searches	_____

Most frequently searched databases	Times searched	Average cost
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____
9.	_____	_____
10.	_____	_____

Average cost of database search _____

NUMBER OF SEARCHES BY MONTH